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Factors Influencing the Location of Rural General Practitioners

A Study in Washington State

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Data on (1) personal background, (2) place of medical education and training, (3) reasons for selecting the present place of practice and (4) previous practice location were gathered and analyzed from 41 general practitioners in rural Washington state. The analysis was done to isolate factors influencing the choice of location by physicians.

Results show that most of the physicians had spent at least some of their preadulthood years in small communities and that most had some exposure to the state of Washington before establishing their practices in the state.

In addition to the apparent importance of previous exposure to small communities and Washington state, the physicians were also influenced in their locational choice by (1) the professional advantages or appeal of the community, (2) recruitment efforts by persons within the community and (3) economic reasons.

The physicians were rather immobile. Most had never practiced in another community and only two of the 41 physicians planned to move to another community.

POLITICIANS AND OTHERS involved in forming health care policy are continually expressing concern over the availability and accessibility of medical care services in rural areas.[1-16] The National Health Service Corps, a variety of loan forgiveness programs, rural preceptorship programs, the Indian Health Service and the Hill-Burton program are just some of the manifestations. Of particular concern is the fact that the distribution of physicians is highly skewed in favor of urban areas. In 1973 the nation's most urban counties (counties in Standard Metropolitan Statistical Areas with 5,000,000 inhabitants or more) had approximately five times as many active, nonfederal medical doctors in patient care per 100,000 population as did the most rural counties (nonmetropolitan counties with less than 10,000 inhabitants).[17] The success of such policies and programs as the National Health Service Corps and the various loan forgiveness programs is dependent upon isolating and thoroughly understanding those factors influencing physician location and distribution. Although a considerable amount of work has been directed toward gaining a better understanding of these factors, much additional research is needed. In view of this need,

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the major objective of this article is to report empirical findings dealing with factors influencing physician location.

Methods

During the three years from 1971 through 1973 a study was undertaken in the state of Washington to, first, isolate certain characteristics, attitudes and opinions of a sample of rural general practitioners and, second, determine if any differences in physician productivity exist among different sized rural practices. Although this article focuses on the first of these two objectives (see references 18 and 19 for findings related to the second objective), it should be noted that meeting the second objective resulted in a sample of rural physicians that included a very small number of solo practitioners and a disproportionately large number who were in group practices.

The physicians included in this study were selected from a master list of all physicians in the state of Washington. This master list was supplied by the Washington Medical Education and Research Foundation, and also included all physicians' addresses, which made it possible to identify those physicians practicing in rural communities. A rural community was defined as a place of 10,000 population or less which was not part of a larger population center. Physicians practicing in rural communities were categorized according to the number of physicians in their practice. Practices staffed by anyone other than general practitioners were eliminated from consideration and an attempt was made to enlist the cooperation of a sample of the remaining practices. Cooperation was received and data gathered from a total of 17 practices. Five of these practices were solo practices and the remaining 12 evenly divided among groups of two, three and four physicians.

The 12 counties in which the practices were located had only 87 medical doctors in patient care per 100,000 population. This was well below the national and Washington state average of 130 and 131 medical doctors in patient care per 100,000 population, respectively.[17] The average distance of the 17 practices to a Standard Metropolitan Statistical Area was 69 miles.

In addition to productivity data, the 41 general practitioners associated with the sample of 17 practices were personally interviewed to gather data on their (1) personal background, (2) place of medical education and training, (3) reasons for selecting the present place of practice and (4) previous practice location.

TABLE 1.—*Occupations of Physicians' Fathers*

*Father's Primary Occupation**	*Number*	*Percent of Total Sample (N=41)*
Physicians, dentists and pharmacists	7	17
Other professional, technical and kindred workers	10	24
Managers, officials and proprietors (except farm)	8	20
Farm laborers and foremen, farmers and farm managers	7	17
Craftsmen, foremen and kindred workers	6	15
Sales workers	3	7

*The census lists five additional occupational categories. They are (1) clerical and kindred workers, (2) service workers except private household, (3) operatives and kindred workers, (4) laborers except farm and (5) private household workers. None of these occupations had been pursued by the physicians' fathers.

Findings

Each physician interviewed was asked to specify his father's primary occupation. The United States Bureau of Census' occupational categories provided the basis for classifying these responses. One modification of the census format was to separate the occupations of physician, dentist and pharmacist from other types of professional workers. This was done to determine whether or not there was a tendency for physicians to come from families where the father was directly involved in the delivery of medical care. Such a tendency appears to hold in that 17 percent of the doctors studied had fathers who were either physicians, dentists or pharmacists (Table 1). This percentage, of course, is much larger than the percent of physicians, dentists and pharmacists in the general labor force. Another interesting observation was that 61 percent of the doctors' fathers were either physicians, dentists, pharmacists, some other type of professional or technical worker, managers, officials or proprietors. Only a relatively small portion of the nation's labor force is or ever has been in these occupational categories—categories that also happen to be commensurate with a relatively high socioeconomic status. This suggests that a disproportionately large number of the physicians, in this study came from family backgrounds characterized by relatively high socioeconomic status.

Several studies indicate that a tendency exists for physicians to practice in the same size com-

TABLE 2.—*Places of Residence Before Physician's 18th Birthday*

Population and Location of Community	Number*	Percent of Total Sample (N=41)
Population of Community†		
Less than 2,500	15	37
2,500-9,999	15	37
10,000-24,999	4	10
25,000-49,999	2	5
50,000-99,999	2	5
100,000 and over	12	29
Unclassified responses‡	10	24
Location		
Washington	20	49
States other than Washington	22	54
Foreign countries	7	17

*Column total is more than the sample size due to more than one place of residence for some physicians.

†Based on official census figures for the decennial year closest to the physician's birth year plus nine years.

‡Primarily foreign places of residence.

TABLE 3.—*Location of Medical School, Internship and Residency*

Location	Medical School		Internship		Residency	
	Number	Percent of Total Sample (N=41)	Number	Percent of Total Sample (N=41)	Number	Percent of Those With Residency Training (N=16)
Washington	4	10	17	41	4	25
Oregon	8	20	6	15	2	12
Other states	22	54	10	24	5	31
Foreign countries	7	17	4	10	5	31
No response	0	0	4	10	2	12

*Two physicians served residencies in more than one state.

munity in which they spent their preadulthood years.[20-34] Before their 18th birthday, 74 percent of the physicians in this study had lived in places of less than 10,000 population, a population category comparable to the size of the place where they were presently practicing (Table 2). Of course it can be hypothesized that 74 percent or more of urban physicians similar in age to the physicians in this study had also lived in places of less than 10,000 population before their 18th birthday. Bureau of the Census data were used to provide a crude test for this hypothesis and the data do not support the hypothesis. At least the percent of *all* persons residing in places of less than 10,000 population was well below 74 percent between census years 1910 (the oldest physician in the study was born in 1903) and 1950 (the youngest physician in the study was born in 1939). More specifically, the percentage of all persons residing in places of less than 10,000 population decreased steadily from 63 percent to 46 percent between 1910 and 1950.[35] In other words, data from this study support the notion that a strong relationship exists between the size of community lived in during preadulthood years and the size of community in which the physician established his or her practice.

A number of studies suggest that a strong correlation exists between the state or region in which a physician is practicing and the state or region in which he or she (1) lived during preadulthood, (2) attended medical school and (3) served internship or residency.* Results of this study generally support these findings. Of the 41 physicians in the study, 26 had had some previous exposure to Washington state by living there during preadulthood, attending medical school in Washington, or serving their internship or residency in Washington (or a combination of these). Washington accounted for almost as many places of residence before age 18 as did all other states combined (Table 2). On the other hand, only four of the 41 physicians had received their MD degree from the University of Washington, the state's only medical school (Table 3). Part of the reason for this unexpectedly small number is that 19 of the 41 doctors had graduated from medical school before 1950, the year in which the University of Washington graduated its first class of medical students. It was found that 20 percent of the sample had graduated from medical school in neighboring Oregon.

Although only 10 percent of the doctors were graduates of the University of Washington Medical School, 41 percent had served their internship in Washington (Table 3). This figure was greater than for all other states combined. Sixteen of the doctors had had some residency training. As with internship, more of the residencies had been served in Washington than in any other state. In both cases (that is, location of internship and residency) neighboring Oregon was a distant second.

The reasons given by physicians for choosing to practice in their present community are presented in Table 4. By far the most frequently cited reason—"personal preference for the general area and/or this type community"—was mentioned by 71 percent of the physicians. "Per-

*References 21, 22, 24, 27, 33, 34, 36, 37-41

TABLE 4.—*Reasons for Choosing to Practice in Present Community*

Reason Given	*Number**	*Percent of Total Sample (N=41)*
Personal ties to the community ...	7	17
Personal preference for the general area and/or this type community	29	71
Professional appeal of the community	15	37
Recruited by individuals within the community	12	29
Economic reasons	16	39
Other reasons	4	10

*Column sums to more than the sample size due to multiple responses by some physicians.

sonal ties to the community" was mentioned by 17 percent. This reason differed from "personal preference for the general area and/or this type community" in that it had reference to family and childhood attachments to the particular community in which the physician was presently practicing. These type attachments have been found to be important in other studies.*

These two reasons—"personal preference for the general area and/or this type community" and "personal ties to the community"—for choosing a particular practice location reinforce the earlier argument that a tendency exists for physicians to practice in the same state or region in which they lived during preadulthood, attended medical school, or served their internship or residency. Specifically, many of the responses categorized under "personal preference for the general area and/or this type community" and "personal ties to the community" indicated that the physician had had previous exposure to the general area or community in which he was currently practicing. In many cases this exposure occurred during preadulthood, while attending medical school, or during internship or residency training.

In choosing their present practice location, 37 percent of the physicians were influenced by the "professional appeal of the community" (Table 4). Although such a finding does not necessarily suggest rural areas are as professionally attractive as urban areas, it does suggest that rural areas have at least some professional appeal. However, the professional appeal or advantages of rural areas is rarely mentioned in the popular or professional literature. On the other hand, the alleged disadvantages of rural practice are constantly being stressed[5,11,14,43-47] which may be giving medical students and nonrural physicians an image of rural practice—at least rural *group* practice—that is *unrealistically* negative. Moreover, many of the professional factors in which rural areas are at a disadvantage (for example, limited specialized facilities) have been shown to be relatively unimportant for primary care physicians[48-51]—the type of physicians rural areas typically need. Among the specific responses categorized as "professional appeal of the community" were: "hospital was nearby," "an opportunity for group practice existed" and "rural practice provides more satisfaction and independence."

The location decision for 29 percent of the physicians included the fact they were "recruited by individuals from within the community." Although the popularized literature occasionally suggests the need for recruitment efforts,[52] the more scholarly research and literature rarely mention the effect of such efforts. Heretofore, these efforts may have been underestimated in terms of their importance. For example, only recently the Indian Health Service discovered that two potent recruitment tactics are personal visits to potential recruits and bringing potential recruits onto Indian reservations to give them an opportunity to make their own observations.[53] Such strategies are particularly important if nonrural physicians and medical students do, in fact, have an unrealistically negative image of rural practice as was suggested earlier, and if recruitment efforts are successful in creating a more realistic image.

The above four reasons for choosing a practice location—"personal preference for the general area and/or this type community," "personal ties to the community," "professional appeal of the community" and "recruited by individuals from within the community"—are noneconomic in nature. However, such economic reasons as "the opportunity to acquire a financially sound practice" were mentioned by almost 40 percent of the doctors as a factor influencing their location decision. The more frequent mention of noneconomic, as opposed to economic, factors is consistent with other studies that suggest both types of factors are important but that noneconomic ones prevail in the locational decision.*

The data in Table 5 are consistent with results of other studies[20,27,30,34,57] in that the data suggest physicians are relatively immobile. For example,

*References 7, 20, 22, 24, 29, 30, 34, 38, 42

*References 20-24, 27, 30, 32, 34, 42, 54-56

TABLE 5.—*Years in Present Community and Plans for Future Relocation*

	Number	Percent of Total Sample (N=41)
Number of Years Practicing in Present Community		
5 years or less	5	12
6-10 years	6	15
11-15 years	6	15
16-25 years	18	44
More than 25 years	6	15
Do You Plan to Continue Practicing in Your Present Community?		
Yes	35	85
No	4	10
Uncertain	2	5

TABLE 6.—*Number of Communities in Which Physicians had Practiced*

Number of Communities in Which Physicians had Previously Practiced*	Number	Percent of Total Sample (N=41)
None	22	54
One	11	27
Two	6	15
Three	2	5

*Excludes practice locations during internship, residency, and time spent in the armed forces.

59 percent of the physicians interviewed had been practicing in their present community for more than 15 years. Furthermore, when asked whether they planned to continue practicing in their present communities only four said they did not, and two of these were simply planning to retire from active practice. The apparent tendency for doctors to remain in a particular community is further underscored by data in Table 6. Of the respondents, 54 percent had never practiced anywhere other than in their present community. The 19 doctors who had practiced somewhere else were then asked where they had practiced before. In 16 of the 19 cases it was possible to determine (using Bureau of the Census data) the population of these towns during the time in which the physician had practiced there. Seven of the 16 doctors had practiced only in communities of less than 10,000 population and an additional six doctors had practiced both in communities of less than 10,000 population and communities with population greater than 10,000. Only three of the 16 had practiced only in communities with populations greater than 10,000. This suggests that among the more mobile physicians there was some tendency to practice in communities similar in size to their present place of practice.

Summary and Discussion

Data on (1) personal background, (2) place of medical education and training, (3) reasons for selecting the present place of practice and (4) previous practice location were gathered from 41 general practitioners in rural Washington.

Analysis of the data gives additional support to the presumed importance of the physician's personal background and location of medical education training in selecting a place of practice. In particular, there appears to be a strong correlation between (1) the size of the community in which physicians spend their preadulthood years and the size of community in which they establish their practices and (2) the state in which physicians establish their practices and whether or not they have had any previous exposure to that state.

While the importance of personal background and location of medical education and training appear to be crucial influences in the location decision, other factors are also at work. Among these other factors are (1) the frequently overlooked fact that rural practice—at least rural *group* practice—does have certain professional advantages or appeal, (2) the effects of community recruitment efforts and (3) economic reasons.

In sum, it appears that the optimum strategy for a rural community that can financially support a physician would be to (1) encourage a local person to go to medical school (sons and daughters of local health professionals and other white collar workers apparently need the least amount of encouragement and financial support) in their state, (2) encourage him or her to serve internship and residency training in their community or region, and (3) actively recruit the physician to "return home." Initially securing a physician appears to be the major part of the overall struggle in that most of the physicians in this study were relatively immobile once established in practice. Furthermore, those who were somewhat mobile simply tended to move from one small community to another rather than from a small community to an urban area.

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